

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested in view of the foregoing amendments and discussion presented herein.

1. Objection to Claims.

Originally numbered claims 116-130 have been renumbered to have proper consecutive order, and are now listed as claims 115-129.

2. Rejection of Claims 1, 5-14, 110-114, and 116-118 under 35 U.S.C. § 102(b).

Claims 1, 5-14, 110-114, and 116-118 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Hoffman et al. (U.S. No. 2004/0076681). Such rejections are traversed as follows:

(a) Claim 1. Independent Claim 1 recites, among other elements, a fluidic nanotube comprising a non-carbon, hydrophilic, tubular member having first and second ends, and an inner bore between said first and second ends. In particular, the tubular member has a non-porous inner wall. Such structure is not present in the reference cited by the Examiner.

Hoffman et al. only discusses or teaches microscopic hollow tubes having "porous" wall layers. (see Abstract). Page 4 of the present Office Action cites col. 7, lines 38-43 as allegedly teaching a "non-porous" wall. However, Applicants' were not able to find any such teaching in the cited text, nor elsewhere in the Hoffman et al. application. If anything, the cited text teaches away from a nanotube having a non-porous inner wall.

For example, col. 7, lines 33-37 teach "applying a porous layer to the fiber... and then removing the fiber by allowing the solvated fiber or gaseous fiber products to go through the porous tube wall." (see also Abstract). Thus, the porous tube wall allows the inner fiber to be removed from the tube to avoid the "diffusional length limitation" inherent in the processes described in Hoffman et al. (see col. 7, lines 23-33). As an alternative to depositing a porous wall, a non-porous wall could be made porous by treatment...or generated during the fiber removal process. The actual impervious wall

tube could then be applied to the exterior of the porous tube wall.” (See col. 7, lines 37-43). Therefore, every embodiment listed in the above-cited text, and in the Hoffman et al. reference as a whole, results in an at least an inner wall having a “porous” structure.

Page 4 of the Office Action states that “the wall layers optionally may be temporarily made porous for a particular purpose, but if this optional step is employed the walls are then made porous (impervious) in the final product.” Applicant’s were unable to find such an option in the cited text. Rather, the cited text only teaches or suggests “applying a porous layer to the fiber,” or as an alternative, making a non-porous wall porous “by treatment” or “during the fiber removal process.” Applicants were unable to find the terms “optionally” or “temporarily” in the cited text as suggested by the Examiner.

For the foregoing reasons, a tubular member having a non-porous inner wall has not been shown or suggested in the cited references, and therefore the rejection of Claim 1, and Claims 5-14 and 110-117 dependent therefrom, should be removed.

(b) Claims 5-14 and 110-117. In addition to being patentable over the cited reference as indicated above, Claims 5-14 and 110-117 each recite additional elements that are not found in the cited reference.

For example, Claim 9 recites a nanotube formed from a core material that is single-crystalline. A single crystalline core is not taught nor suggested in the Hoffman et al. reference. Page 3 of the Office Action alleges that the “surface coating” which coats the “fiber” described in Hoffman et al. teaches “depositing a single-crystalline nanotube material”. However, Hoffman et al. is absent any discussion of material structure for the “fiber” itself, and is particular void of any discussion of a “single-crystalline” structure. Applicant’s performed a word search on the Hoffman et al. reference, and no terms similar to “single-crystalline” (nor even “crystalline” nor “crystal”) were found anywhere in the application. Therefore, since the limitations of Claim 9 have not been taught nor suggested in the cited art, Claim 9 is therefore allowable.

Claim 10 recites a single-crystalline nanotube material. Applicants were also unable to find any teaching or suggestion for such a limitation, as the only disclosure regarding nanotube or "coating" structure in Hoffman et al. is directed to the "porosity" of the coating walls. As explained above, a word search of terms similar to "single-crystalline" (nor even "crystalline" nor "crystal") were found anywhere in the Hoffman et al. reference. Hence, Claim 10 is allowable over the cited art.

Claim 13 recites a nanotube material that has a sufficiently similar crystalline structure and lattice constant as the material selected for said core material to allow epitaxial growth of said nanotube material on said core material. Although page 4 of the Office Action claims that the "surface coating" and "fiber" exhibit such properties, no evidence of such subject matter in Hoffman et al. has been provided. As explained above for Claims 10 and 11, the structural properties, particularly the material directionality, of the "surface coating" and "fiber" are not discussed in the Hoffman et al. reference. Furthermore nanotubes exhibiting epitaxial growth with underlying core structures are not taught or suggested in the cited art. A word search on the Hoffman et al. reference revealed no terms similar to "epitaxy" or "epitaxial" anywhere in the reference.

Claims 111 and 112/120 all recite an inner wall is substantially continuous, or having a substantially uniform diameter. No teaching nor suggestion for such elements have been provided by the Examiner. Applicants were also unable to find any teaching nor suggestion a substantially continuous or uniform diameter inner wall. Because all the embodiments disclosed in Hoffman et al. teach of a porous inner wall, the reference teaches away from such a use.

Furthermore, Claims 113 and 117 recite a nanotube that is substantially isotropic. No teaching or suggestion of this limitation in Hoffman et al. has been provided by the Examiner, and Applicants similarly were unable to find such a teaching or suggestion in the cited references.

Therefore, the rejection of Claims 1, 5-14, and 110-17 under 35 U.S.C. § 102(b) is improper, and should be removed.

3. Amendments Made Without Prejudice or Estoppel.

Notwithstanding the amendments made and accompanying traversing remarks provided above, Applicants have made these amendments in order expedite allowance of the currently pending subject matter. However, Applicants do not acquiesce in the original ground for rejection with respect to the original form of these claims. These amendments have been made without any prejudice, waiver, or estoppel, and without forfeiture or dedication to the public, with respect to the original subject matter of the claims as originally filed or in their form immediately preceding these amendments. Applicants reserve the right to pursue the original scope of these claims in the future, such as through continuation practice, for example.

4. Conclusion.

Based on the foregoing, Applicants respectfully request that the various grounds for rejection in the Office Action be reconsidered and withdrawn with respect to the presently amended form of the claims, and that a Notice of Allowance be issued for the present Application to pass to issuance.

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Appl. No.: 10/822,148
Amdt. Dated: 01/24/2007
Off. Act. Dated: 10/24/2006

In the event any further matters remain at issue with respect to the present application, Applicants respectfully request that the Examiner please contact the undersigned below at the telephone number indicated in order to discuss such matter prior to the next action on the merits of this application.

Date: 01/24/2007

Respectfully submitted,

A handwritten signature in black ink, appearing to read "John P. O'Banion". The signature is fluid and cursive, with a long horizontal stroke extending to the left.

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